

CLAIMS

What is claimed is:

1. A method of conferencing comprising:
 - 5 connecting at least two sites to a conference;
 - receiving at least two video signals from the connected sites;
 - defining a composite image layout based on the number of sites connected in the conference or the number of received video signals or both;
 - 10 processing the received video signals to provide a composite video signal according to the defined composite image layout; and
 - transmitting the composite video signal to at least one of the connected sites.
- 15 2. The method of Claim 1 further comprising upon at least one of the connected sites disconnecting from the conference or at least one video signal disconnecting, redefining the composite image layout based on the number of sites currently connected in the conference or the number of video signals currently being received; processing the received video
20 signals to provide a second composite video signal according to the redefined composite image layout; and transmitting the second composite video signal to at least one of the connected sites.
- 25 3. The method of Claim 1 further comprising upon at least one other site connecting to the conference or at least one other video signal is received, redefining the composite image layout based on the number of sites currently connected in the conference or the number of video signals currently being received; processing the received video signals to provide a second composite video signal according to the redefined

composite image layout; and transmitting the second composite video signal to at least one of the connected sites.

4. A method of conferencing comprising:

5

connecting at least two sites to a conference;

receiving video signals from the connected sites;

defining one or more conference parameters based on the number of sites connected in the conference or the number of received video signals or both;

10

processing the received video signals to provide a composite video signal according to the defined conference parameters;

transmitting the composite video signal to at least one of the connected sites;

15

upon one or more other sites connecting to the conference, one or more of the connected sites disconnecting from the conference, one or more other video signals received and/or one or more video signals disconnecting, such that the number of sites currently connected in the conference or the number of received video signals changes or both, redefining one or more conference parameters, processing the received video signals according to the redefined conference parameters to provide a second composite video signal, and transmitting the second composite video signal to at least one of the connected sites.

20

5. The method of Claim 4 wherein defining one or more conference parameters includes defining a composite image layout.

25

6. The method of Claim 5 wherein defining a composite image layout includes defining a CP4 layout that has four quadrants for a conference having four or fewer connected sites.

30

7. The method of Claim 5 wherein defining a composite image layout includes defining a CP9 layout that has nine areas for a conference having between five and nine connected sites.
- 5 8. The method of Claim 5 wherein defining a composite image layout includes defining a CP16 layout that has sixteen areas for a conference having greater than nine connected sites.
9. The method of Claim 4 wherein defining one or more conference
10 parameters includes defining an image resolution.
10. The method of Claim 9 wherein defining an image resolution includes selecting the highest common image format for image clarity.
- 15 11. The method of Claim 9 wherein defining an image resolution includes selecting the highest common image format for image motion.
12. The method of Claim 4 wherein defining one or more conference
20 parameters includes defining a conference bandwidth rate.
13. The method of Claim 12 wherein defining a conference bandwidth rate includes defining a standard bandwidth rate and a low bandwidth rate, and wherein processing includes processing the received video signals at the standard bandwidth rate to provide a first composite video signal for
25 connected sites capable of handling the standard bandwidth rate and processing the received video signals at the low bandwidth rate to provide a second composite video signal for the remaining connected sites and wherein transmitting includes transmitting the first composite video signal to at least one of the sites capable of handling the standard

bandwidth rate and transmitting the second composite video signal to at least one of the remaining sites.

14. A method of conferencing comprising:

5 connecting first, second, third and fourth sites to a conference;
 receiving first, second, third and fourth video signals from the
 respective connected sites;

 defining a first composite image layout that has four areas, each
 of the first, second, third and fourth sites associated with one of the four
10 areas;

 processing the first, second, third, and fourth video signals to
 provide a first composite video signal according to the first composite
 image layout;

 transmitting the first composite video signal to at least one of the
15 first, second, third and fourth sites;

 connecting a fifth site to the conference;

 receiving a fifth video signal from the fifth connected site;

 defining a second composite image layout that has more than four
 areas, each of the first, second, third, fourth and fifth sites associated
20 with one of the more than four areas;

 processing the first, second, third, fourth and fifth video signals
 to provide a second composite video signal according to the second
 composite image layout;

 transmitting the second composite video signal to at least one of
25 the first, second, third, fourth and fifth sites.

15. The method of Claim 14 further comprising upon one of the first, second, third, fourth and fifth sites disconnecting from the conference, defining a third composite image layout that has four areas, each of the remaining connected sites associated with one of the four areas; processing the video signals from the remaining connected sites to provide a third composite video signal according to the third composite image layout; and transmitting the third composite video signal to at least one of the remaining connected sites.

16. A method of conferencing comprising:
connecting first, second, third and fourth sites to a conference;
receiving first, second, third and fourth video signals from the respective connected sites;
defining a first composite image layout that has four areas, each of the first, second, third and fourth sites associated with one of the four areas;
processing the first, second, third, and fourth video signals to provide a first composite video signal according to the first composite image layout;
transmitting the first composite video signal to at least one of the first, second, third and fourth sites;
receiving a fifth video signal from the fourth connected site;
defining a second composite image layout that has more than four areas, each of the first, second, third, fourth and fifth video signals associated with one of the more than four areas;
processing the first, second, third, fourth and fifth video signals to provide a second composite video signal according to the second composite image layout;

transmitting the second composite video signal to at least one of the first, second, third and fourth sites.

- 5
17. The method of Claim 16 further comprising upon one of the first, second, third, fourth and fifth video signals disconnecting, defining a third composite image layout that has four areas, each of the remaining received video signals associated with one of the four areas; processing the video signals to provide a third composite video signal according to the third composite image layout; and transmitting the third composite video signal to at least one of the first, second, third and fourth sites.
- 10
18. A multipoint control unit for conferencing, the multipoint control unit comprising:
- 15
- an interface unit for receiving video signals from at least two sites connected in a conference;
- a control processor for dynamically defining one or more conference parameters based on the number of sites connected in the conference and/or the number of received video signals; and
- 20
- a video processor for processing the received video signals to provide a composite video signal according to the defined conference parameters.
- 25
19. The multipoint control unit of Claim 18 wherein the conference parameters includes a composite image layout.
20. The multipoint control unit of Claim 18 wherein the conference parameters include an image resolution and the control processor defines the image resolution by selecting the highest common image format for image clarity.
- 30

21. The multipoint control unit of Claim 18 wherein the conference parameters include an image resolution and the control processor defines the image resolution by selecting the highest common image format for image motion.

5

22. The multipoint control unit of Claim 18 wherein the conference parameters include a conference bandwidth rate and the control processor defines the conference bandwidth rate by defining a standard bandwidth rate and a low bandwidth rate, and wherein the video processor processes the received video signals at the standard bandwidth rate for connected sites capable of handling the standard bandwidth rate and processes the received video signals at the low bandwidth rate for the remaining connected sites.

10

- 15 23. A multipoint control unit comprising:
means for connecting at least two sites to a conference;
means for receiving video signals from the connected sites;
means for dynamically defining a composite image layout based on the number of sites connected in the conference and/or the number of received video signals;
20 means for processing the received video signals to provide a composite video signal according to the defined composite image layout;
and
means for transmitting the composite video signal to at least one
25 of the connected sites.

20

25